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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/073,933

02/14/2002

Pangan Ting

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02/15/2005

EXAMINER

PEREZ, JULIO R

SHAW PITTMAN

IP GROUP

1650 TYSONS BOULEVARD

SUITE 1300

MCLEAN, VA 22102

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,933

Applicant(s)

TING ET AL.

Examiner

Julio R Perez

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed on 10/22/04 have been fully considered but they are not persuasive. The applicant argues that Subramanian does not teach the flexibility of the system where one of the configurable computational units is dynamically selected based on a wireless communication standard for configuring various hardware for dedicated functions with at least one data flow component interconnecting one of the computational units and one data flow unit interconnecting the different layers, and that further fails to teach compiling software stored in a software library in host memory wherein determining the utilization of hardware resources based on the software compiled. However, the examiner respectfully disagrees. Subramanian teaches heterogeneous reconfigurable multiprocessing logic circuit and bus connecting the software-programmable multiprocessor and the heterogeneous reconfigurable multiprocessing logic circuit, which provide the reconfiguration of signal processing Kernel units, that correspond to configurable computational units, and further teaches the executive code that further facilitates the management of dataflow into and out of the heterogeneous reconfigurable multiprocessor, which can be controlled and reconfigured via a software-programmable engine, and that, in fact, provides the ability to reconfigure a single product platform for multiple standards (col. 3, lines 6-9, 28-48; col. 4, lines 48-54; col. 5, lines 3- 9, 63-67; col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-40). It further provides the use of software programming techniques to reduce product development time and accomplish quick

Art Unit: 2681

and full product optimization, with the further addition of software upgrades. In addition, the software control provides the selection of software modules to execute on different hardware components and applications (col. 4, lines 59-67; col. 5, lines 10-41; col. 7, lines 45-63; col. 10, 23-31).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by applicant's submission of prior art Subramanian (6721581).

Regarding claim 1, Subramanian discloses an upgradeable and extendable wireless communication system, comprising: a plurality of layers, each layer including: a plurality of configurable computational units capable of implementing operation of wireless digital communication functions, at least one of the plurality of configurable computational units being dynamically selected based on a wireless communication standard to configure various hardware for dedicated functions; (col. 3, lines 6-9, 28-48; col. 4, lines 38-54; col. 5, lines 3- 9, 63-67; col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, the system comprises a number of elements to implement a digital communication, several Kernels to be configured and

Art Unit: 2681

interact with different standards); a plurality of data flow components for forming paths between ones of said computational units and having means for storing data, at least a first one of the plurality of data flow components inter-connecting each of the computation units and at least a second one of the plurality of data flow components interconnecting each of the plurality of layers (col. 3, lines 6-9, 28-48; col. 4, lines 38-54; col. 5, lines 3- 9, 63-67; col. 6, lines 54-66; col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, computational elements within the system comprise means to maintain data flowing and means from storing information); and a plurality of control flow components for forming a signaling-exchange network between ones of said computational units (col. 3, lines 6-9, 28-48; col. 4, lines 38-54; col. 5, lines 3- 9, 63-67; col. 6, lines 1-30, 54-66; col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, signaling is provided within the system).

Regarding claim 2, Subramanian discloses the wireless communication system further including means for at least one layer of said plurality of layers to communicate with at least another layer of said plurality of layers (col.3, lines 28-31; col. 4, lines 48-58, a number of devices are provided that interact with one another).

Regarding claim 3, Subramanian discloses the wireless communication system of claim 1, wherein the plurality of configurable computational units comprise a RF front-end waveform kernel set, a re-configurable kernel set and a reprogrammable kernel set (col. 4, lines 48-58; col. 5, lines 36-39; col. 6, lines 1-3, sets of Kernels are provided, which used the air as a medium for communication).

Regarding claim 4, Subramanian discloses the wireless communication system, wherein the plurality of data flow components comprises a layer-memory structure and a layer-router structure (col. 4, lines 14-24; Figs. 4A-6).

Regarding claim 5, Subramanian discloses the wireless communication system, wherein the plurality of control flow components comprises a layer-memory structure and a layer-bus structure (col. 3, lines 6-9, 28-48; col. 4, lines 38-54; col. 5, lines 3-9, 63-67; col. 6, lines 1-24, 54-66; col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, memory structures and memory structures are provided within the system).

Regarding claim 6, Subramanian discloses a method of programming and configuring components of an upgradeable and extendable wireless communication system in order to implement multiple wireless communication standards, services, and applications, comprising: identifying one of the application, standard or service to be implemented (col. 5, lines 31-41, several applications are served and implemented by the system); compiling software stored in a library that is associated with the identified application, standard or service and storing complied software in a host memory (col. 4, lines 59-67; col. 5, lines 10-41, 56-67; col. 7, lines 45-63; col. 10, 23-31); determining the utilization of hardware resources based on the complied software, the hardware resources being located at different layers of an updateable and extendable communication system and being chosen to form an event-driven hardware (col. 4, lines 59-67; col. 5, lines 10-41, 56-67; col. 7, lines 45-63; col. 10, 23-31, several hardware and software resources are utilized. It further provides the use of software programming

Art Unit: 2681

techniques to reduce product development time and accomplish quick and full product optimization, with the further addition of software upgrades. In addition, the software control provides the selection of software modules to execute on different hardware components and applications); and configuring hardware resources to meet the application, standard or service required (col. 4, lines 59-67; col. 5, lines 10-41, 56-67; col. 7, lines 45-63; col. 10, 23-31, the resources of the hardware are configured appropriately).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

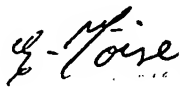
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio R Perez whose telephone number is (703) 305-8637. The examiner can normally be reached on 7:00 - 4:00 PM.

Art Unit: 2681

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on 703-306-0003. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JP
2/10/05


E. Moise
2/10/05